STEReO

combining NASA technologies and partnerships to transform current-day emergency response operations

problem

emergency response operations aren't easy:

- conducted under adverse conditions
- involve numerous organizations
- limited communication and infrastructure
- manual coordination to deconflict/use airspace
- challenges with timeliness of information

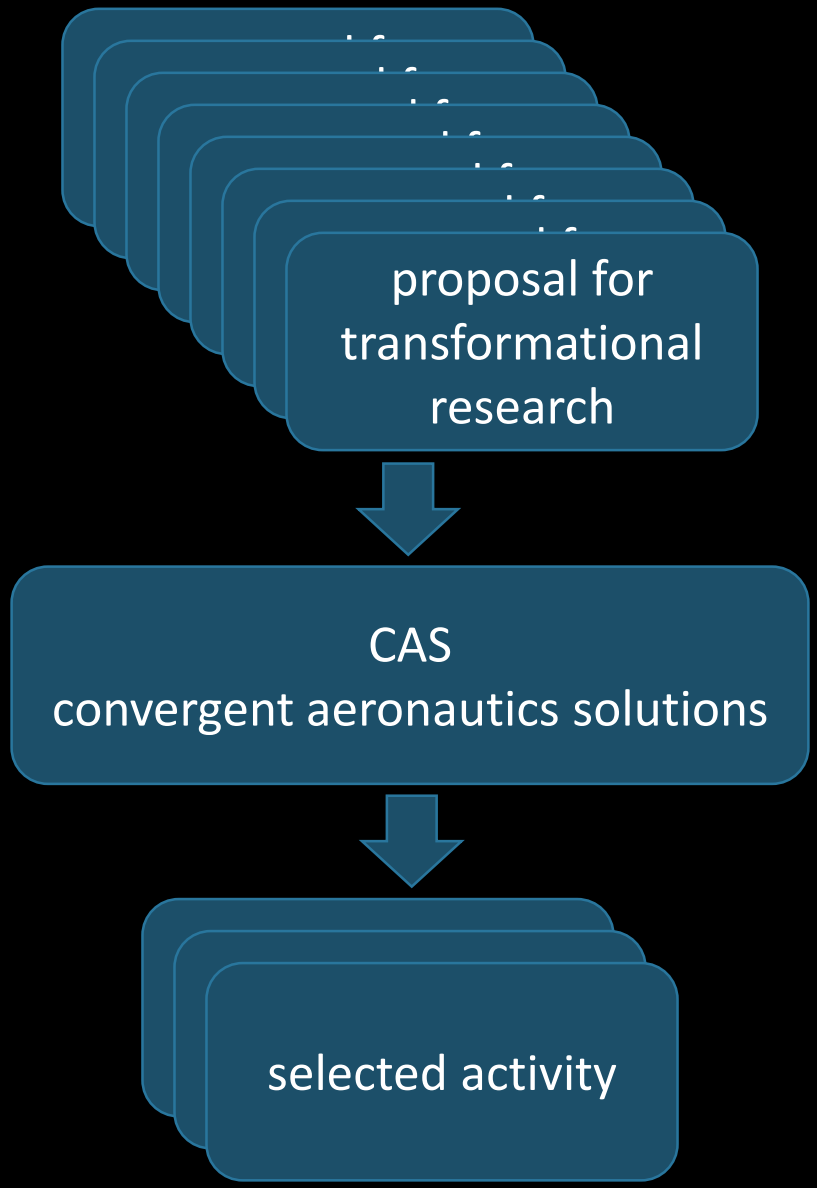
the result? safe procedures with minimal technological advances

solution

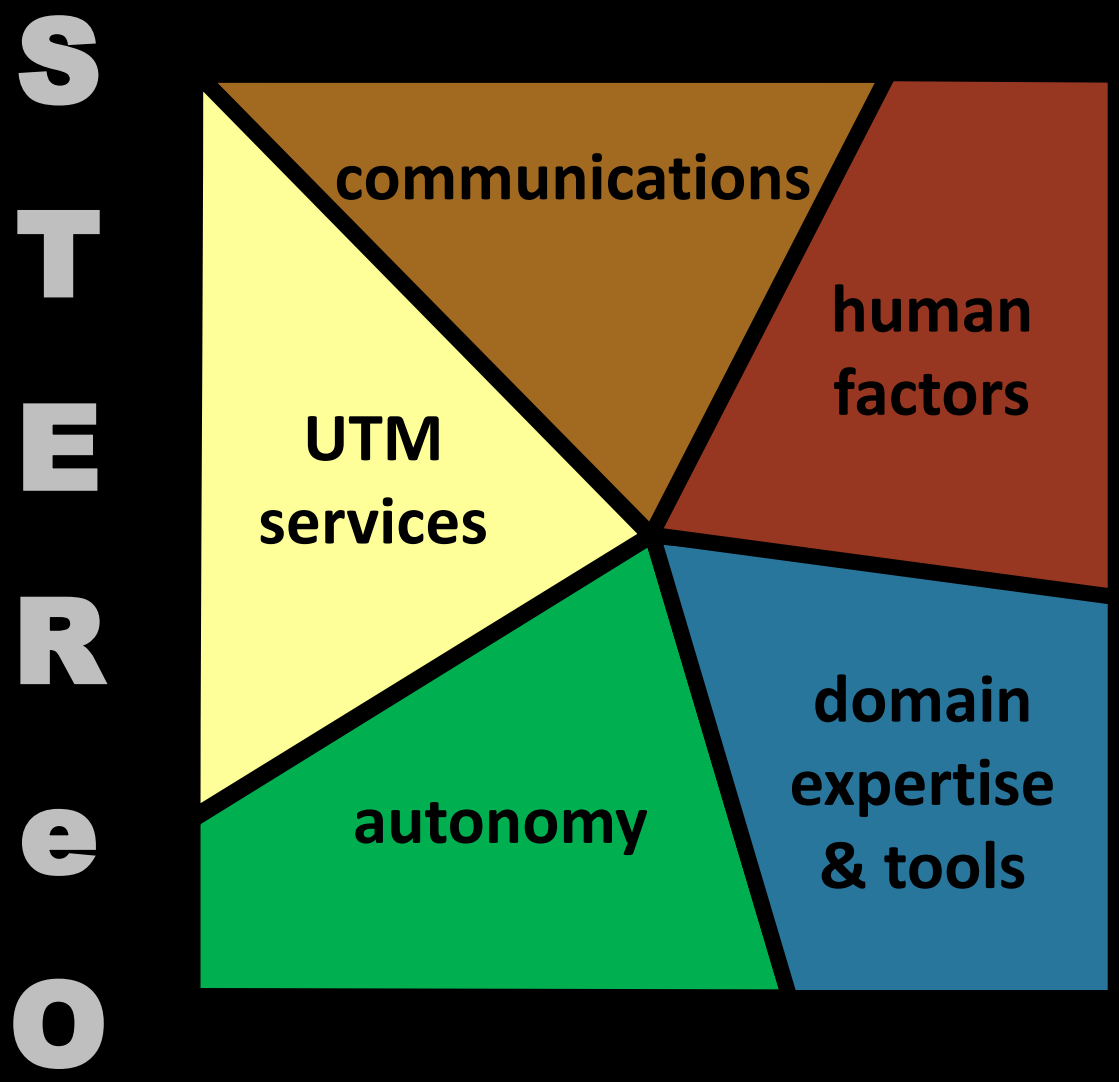
use innovative communication approaches to enable new traffic management and autonomous vehicle capabilities, providing a data-rich common operating picture

the result? responders can do more, know more, safely

process


proposal for transformational research
CAS
convergent aeronautics solutions
selected activity

STEReO as a product



autonomy

- how can state-of-the-art vehicle autonomy help UAS vehicles become a valuable part of emergency response operations?
  - what is the state-of-the-art?
  - what hurdles do we need to consider?
  - what are the ripe opportunities?

UTM services

- how can UTM services be leveraged to support scalability of operations, and to provide improved awareness via an enhanced common operating picture?
  - what capabilities do UTM services provide?
  - how do they relate to today's procedures for airspace coordination?
  - what new capabilities can be added to UTM services that address the unique needs of emergency responders?

communications

- how can advanced communication/connectivity technologies enable new data exchanges and information sharing?
  - what data do we want to send?
  - what infrastructure/techniques can we employ to send that data?
  - how can we support resilient operations/communications in challenging environments?

human factors

- how can data be delivered to best support operator awareness and decision-making?
  - what types of collaborations occur today?
  - what interfaces are the most appropriate for data-supported tasks?
  - what information must be included to support effective teamwork between operators, between systems, and between operators and systems?

domain expertise/tools

- how can new processes, products, and options be integrated into existing workflows that are critical to established operations?
  - what things are used today?
  - where are there flexibilities and constraints?
  - what are the needs for interoperability/sharing?

team

- Ames Research Center
  - yasmin arbab
  - josh baculi
  - anjan chakrabarty
  - lauren claudatos
  - corey ippolito
  - george lawton
  - joey mercer
- Glenn Research Center
  - chuck sheehe
- Langley Research Center
  - dave bradley
  - lou glabb
  - robert mcswain
  - bryan petty

workshop logistics

- agenda review…
- access to guest wi-fi…
- visitor badges…
- lunch options…
- networking session…
- social outing…
- questions?

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scalable traffic management for emergency response operations

next steps

project deliverables!

- stakeholder workshop
- initial airborne feasibility assessment
- v1 conops document
- simulation/walkthrough of flight demonstration's scenario
- FLIGHT DEMONSTRATION (wildland fire use case)
- simulation exercise (hurricane use case)
- v2 conops document

next steps

conops working group!

- focus areas:
  - capturing the needs from the user community
  - identifying use-cases to properly scope the document
- alignment needs:
  - coordination with many, many agencies
- logistics:
  - charter?
  - membership?
  - meetings/schedule?

next steps

partnerships!

- communication solution providers
- emergency response organizations
- insurance companies?
- regulators
- technology companies
- UAS service suppliers
- utility companies
- vehicle operators
- other connections?

next steps

logistics!

- attendance list -> mailing list
- distribution of slides
- partner-led ‘events of opportunity’
- other?

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